Claims

We claim:

1. A method for concealing errors in an intra-fame of a compressed video, comprising:

decoding the intra-frame to a plurality of macroblocks, each macroblock including a plurality of pixels arranged in a rectangular array;

locating a lost macroblock during the decoding;

concealing pixels along an outer boundary of the lost macroblock from nearest candidate pixels along outer boundaries of macroblocks immediately adjacent to the lost macroblock; and

concealing all other pixels in the lost macroblock from nearest candidate pixels selected from previously concealed pixels in the lost macroblock.

2. The method of claim 1, in which the candidate pixels are directly above, below, to the left and to the right of a current pixel to be concealed.

3. The method of claim 1, in which the pixels in the lost block are concealed in a spiral order, starting at an upper left corner of the lost block, and running then along the outer boundary, and ending in the middle of the lost block.

4. The method of claim 1, further comprising:

sorting the candidate pixels C_i in an ascending order in terms of intensity values of the candidate pixels;

determining a median value of the ordered candidate pixels;

determining a difference $Diff_i$ between the intensity value of the i^{th} candidate pixel and the median intensity value;

determining a distance $Dist_i$ between the i^{th} candidate pixel and the current pixel;

determining an evaluation score S_i for the i^{th} candidate pixel as sum of $Diff_i$ and $Dist_i$;

if the evaluation score S_i is greater than a threshold T, then rejecting the i^{th} candidate pixel; and

linearly interpolating remaining candidate pixels and assign an interpolated value to the current pixel p according to

$$p = (\sum_i \frac{C_i}{Dist_i}) / (\sum_i \frac{1}{Dist_i}).$$

5. The method of claim 4, in which the threshold is twenty.

6. The method of claim 4, in which the distance metric is the number of pixels from the current pixel to the candidate pixel.